MICHIGAN FARMER.

Devoted to Agriculture, Horticulture, and Domestic and Rural Affairs.

NEW Perfect Agriculture is the foundation of all Trade and Industry.—Liebig. SERIES.

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Analysis of Soils.

Intelligent men who derive their daily food and their fortunes from the soil, should not be unwilling to learn what they may of its nature, its peculiarities and productive power. The careful study of cultivated earth is at once the most useful and interesting that can engage the attention of the practical farmer. Does successful tillage demand patience, perseverance and some confidence in the future harvest, before the first seed is sown or planted? Even so it is with those that study the operations of nature, in the decomposition of rocks, the decay of vegetables, the formation of soils, and the peculiarities and elements of generous crops.

The first note-worthy feature in ordinary soils is their apparent insolubility. Rains for unknown ages have dissolved out and washed away, one would suppose, every earthly substance which running water can dissolve. This view of soils would be entirely correct, did not time, in its wonderful progress, work never-ending changes in both the organic and inorganic matters that lie on the surface of the earth. One of the most important results of these natural changes is, the slow solubility of all the before insoluble elements, which form the whole weight and substance of every living thing, whether plant or animal. Vain and fruitless would be the vitality of all seeds, if God had failed to make adequate provision for the developement of their germs, the nutrition, growth, maturity, and final decomposition of all vegetables. Fully to explain these phenomena would require a volume, instead of a column or so in this journal. We have room only for *results*, and a few explanations. The analysis of a surface and subsoil, made for the Clark County Agricultural Society, give the following results:

SURFACE SOIL.—100 parts contained:

Water of absorption.	3.79
Organic matter.	5.86
Silica, (flint sand,)	80.00
Alumina, (basis of clay,)	4.95
Oxide of Iron.	5.35
Lime, (Carbonate,)	0.10
Magnesia.	traces
Total,	66.75

SUBSOIL.—100 parts gave:

Water of absorption.	4.80
Organic matter.	1.00
Silica.	81.00
Alumina and Iron.	13.00
Carbonate of Lime.	00.10
Magnesia.	00-03
Phosphoric and Sulphuric acids.	traces
Total.	100.03

These specimens were taken from an old and badly worn field near Watkinsville, on Mr. HAYGOOD'S plantation. The surface soil was the loose earth, without plants or roots, at the surface of the ground; the subsoil was taken at twelve or fourteen inches below. Both were equally dry, in a common room, when the operation commenced. The first fact developed was, that a given quantity of the subsoil brought to the surface will retain permanently a quarter more water in it than will the surface soil. This is a fact of considerable moment in the economy of tillage, and the organization of plants. *Why* a lack of moisture is a serious defect, we cannot now explain. Why 100 grains of this subsoil permanently retain a quarter or more of water than a like weight of surface soil is owing to the circumstance of having thirty per cent more clay, (alumina and Iron.)

By the terms, "organic matter," the unlearned reader will understand what is called "mould," the remains of plants and animals. At another time we will study this portion of soils—the critical analysis of which is a department by itself. The surface soil, it will be seen, has nearly six per cent of organic matter, the subsoil but one. Silica, or pure white quartz sand abounds in both samples, and contributes to the natural poverty of the earth.

In the surface soil we separated the alumina from its iron; in the subsoil we did not, as it is of little practical importance To mix the subsoil with that of the surface, will make the latter more retentive of moisture, fertilizing dews and showers, and of any manure that may be applied to it. What has most interested us in these carefully conducted researches is the fact that the subsoil contains twice as much lime as the surface soil, although in both, there is less than is desirable.

The same is true of magnesia, and doubtless of the salts of potash and soda, including phosphates, sulphates and chlorides. We may yet take two or three thousand grains of soil and make a separate search for these. The labor already bestowed has extended through two weeks. Let us now sum up and draw our inferences. This poor soil has about the usual per centage of organic matter which we find in

the good wheat and corn lands of Western New York. Its silica figures a little larger, its alumina a little less, and its iron about the same. Its lime and magnesia and their salts, in the surface soil, are only *one-twentieth* part as abundant as in the many productive soils analyzed by the writer- The latter usually have two per cent, whilst the soil at Watkinsville has but the tenth of one per cent, a vast difference Those that have often mixed a little lime with a good deal of sand, need not be informed of its mechanical influence to stiffen the mass. On the mechanical, as well as chemical action of lime in soils, we should like to say more had we room.

Allowing a cubic foot of this subsoil to weigh 100 pounds, dry, it contains the fifth of a pound of lime. (A cubic foot of water weighs about 90 pounds, and the specific gravity of this subsoil is nearly 2.50. Two and a half times 60 is 150. But the soil is not a perfect solid. It will take up, at least, one third of its bulk of water; so we discount one-third of 150 pounds for space filled with water or air in a cubic foot of earth.) There are 42,240 square feet in an acre. One-fifth of this sum in pounds of lime, gives 8,448 pounds in an acre of subsoil, a foot in depth. Suppose we bring three inches of this to the surface, we add to its soil, besides clay and other things, 2,118 pounds of lime. Something like this was done by Mr. BEARDSLEY, of Michigan, who by a single deep plowing, brought a ten acre field from a yield of 85 bushels of wheat, up to one of 300.

Lime.—By burning and slaking, the lime is reduced to the state of impalpable powder, finer than could be obtained by any available method of crushing. It can in consequence be diffused more uniformly through the soil, and hence a smaller quantity will produce an equal effect. This minute state of division also promotes in a wonderful degree the chemical action of the lime. In all cases chemical action takes place between exceedingly minute particles of matter, and among solid substances the more rapidly, the finer the powder to which they can be reduced.

The effect of burned lime is more powerful and more immediate than that of unburned lime in the form of chalk, oyster-shells or marl.—Hence it sooner neutralizes the acids which exist in the soil, and sooner causes the decomposition of vegetable matter of every kind to commence, upon which its efficacy, in a great degree, depends.

Further, quick-lime is soluble in water, and hence every shower that falls and sinks into the soil carries with it a portion of lime, so long as any of it remains in the caustic state. It thus reaches acid matters that lie beneath the surface, and alters and ameliorates even the subsoil itself.

In the analysis of the ashes of wheat it is found to contain 37 per ct. of lime; oats 26, barley 16, rye 21, potatoes 66, red clover 38.

Among the elements which enter into the composition of soil, lime would seem one of the most useful. From the above, it would appear that potatoes take from the soil nearly twice as much lime as either article named. In order, therefore, to raise a good crop of potatoes, it is necessary the soil should be replenished with lime. It is evident that in course of time, and constant cropping, especially with the before mentioned articles, lime would be constantly consumed, therefore it requires replenishing.

Quick lime in its pure state, whether in powder or dissolved by water, is injurious to plants. Grass is killed by watering it with lime water. But lime in its state of combination with carbonic acid, is a usefnl ingredient in soils. Lime is found in the ashes of the greater number of plants.

Potash a proper Food for Grape Vines.—Having, last year, seen it stated in a paper, that the ashes of grape vines contained a large amount of potash, I caused three vines, of the same size, to be planted in boxes filled with equal quantities of earth, in which I noted the following results:

No. 1 was supplied, when necessary, with pure water, and in a given time, increased six inches in length. No. 2 was watered with a solution of whale-oil soap, and in the same length of time acquired nine inches of growth, And No. 3, I watered with a decoction of potash, and within the same period as above, it grew eighteen inches in length!

By the beginning of November. No. 1 and No. 2 dropped their leaves, and showed no signs of fruit; whereas, No. 3 retanied its leaves three weeks later, and in the course of th season shot forth several bunches of fruit, which, of course, were not suffered to grow. This shows the importance of knowing what kinds of salts go to form wood and fruit, in order that we may apply such manures to the soil as the vine or fruit tree requires.

I wish we could have full analysis made of our great staple. Indian corn, including the grain, cob, stalk and blades.—*Correspondent of the American Agriculturist.*

Ammonia.—This compound of nitrogen and hydrogen is exceedingly important in vegetation. Some of our most important grains require its presence. It exists in the atmosphere; and it is developed in the decay of animal and vegetable substances, from which it escapes into the atmosphere, ready to enter into new combinations One single property of this substance fits it to play its important part in the vegetable economy, namely, its ready absorption by porous bodies. This property is manifested and proved in innumerable instances, some of which fall under observation in our ordinary manual operations; for example, plaster, when placed in stable, or

in any place where organic matters are undergoing decomposition, takes up the ammonia as it escapes; lime also performs a similar office. A direct experiment, which proves this statement, is often performed in the laboratory; thus, we have only to pass a little plaster, lime, charcoal, earth, ect., into a receiver containing ammonia, over mercury, when the whole of the ammonia disappears; it is absorbed and condensed in the pores of the body employed. Any moist substance whatever, produces this effect instantaneously, so powerful is the affinity of ammonia for water. The same process goes on in nature: the ammonia floating in the atmosphere is continually absorbed by soil, by humus, and especially by clay; and all these substances give out their ammonia on the application of sufficient heat to dissipate their water. Exposing fresh surfaces of soil to the air, is one means of procuring a fresh supply of this matter. Clay, and the oxide of iron contained in the soils, perform the important functions of absorbtion. This property of clay, is the one which renders clay soils so much better for wheat than sandy soils: it furnishes a supply of ammonia, from which the wheat forms its nitrogenous matters.—*Dr. E. Emmons, in the Amer. Jour. of Agr. and Science.*

From the Southern Cultivator.

The Management of Colts.

Mr. Editor:—Lest your remarks, in the May number of the Cultivator, should not have proved entirely satisfactory to your Eatonton correspondent, "Putnam," I proffer him the experience of a breeder, in a small way, in the far South; provided, you consider it worthy a place in your columns.

He wishes to know, "what is the best food for young colts, after weaning, to give them the largest attainable size, as well as proportionate development of muscle?"

I will commence with the dam. She should have rest and kind treatment, for a few days before she foals, and the same afterwards, say ten days before and ten after foaling, with generous food, calculated to increase the flow of milk. After which, with a liberal allowance of such food, she may be put to moderate service, without serious disadvantage to her or colt. The colt should never follow the mare when at work, as is very common in the country, but be shut up in a close, dark stable, letting the mare to it three or four times a day, until it becomes accustomed to the separation from her. Then, if you have suitable company for it, it may be turned in a good grass lot to graze. Without company, it would not profit by being turned out for some time. A mare's manger should be so fixed, as to enable the colt to eat with her. It will soon eat heartily of whatever food is given her. Colts should have a plenty of good food, at weaning time, whether it be spring or fall. It is the natural food of the animal, and rest assured, nothing is better for it. Of our Southern grasses, the crab-grass, crow-foot, and a tender grass resembling the latter, are the best, and probably as good as are to be found in any country. My spring colts, (indeed I have no others,) are turned in the corn and pea field the first of September to be weaned, where they remain until feeding becomes necessary. They are then turned to a large stack or rick of pea haulm, that is, peas saved on the vine, by mowing them with a scythe, or pulling them up just before they begin to shed their leaves, and curing them with as little sun as possible. Indeed, they are cured precisely as the Northern farmers do their clover hay, which you know, sir, is fine for wintering colts, but the pea haulm *well* saved, is incomparably better. I keep them in the same manner the second winter, except that they are then too large and strong to go to the sack, and must have it fed to them in a large trough with slats nailed across it, to prevent waste. A quart of Indian corn a day, the first winter, and double that quantity the second, might aid in the developement of important parts

I have had two colts, raised in the above manner, that have been looked upon as prodigies in my part of the country. One of them, a blooded colt, two years old this spring, is a splendid looking animal, fifteen hands and a half high—a hand, (that is four inches,) taller than his dam. Colts should never be stinted in winter, in any country. Corn crushed and ground, cob and all, with a plenty of good crab-grass hay, would be excellent food to winter them on. My pastures are of the coarse natural grasses around ponds, no trees, except such as are necessary for shade. Red-top or herds-grass, would, probaply, make better pastures, but I have thus far been unsuccessful in getting it up. Very respectfully.

J. W. Darney.

Pond Island, near Tallahassee, Fla., May, '48

Remarks.—Corn, or corn and cob meal, fed to colts in small quantities as abova recommended will do no injury: but oats are better feed for a young, growing animal, in whose system it is desirable to develope a good deal of muscular power. Peas and oats, barley and oats, oats with corn, or even peas with corn are better than clear corn for colts. Pure water, and always accessible, as well as regular salting and feeding need attention on all stock-raising farms. Colts should be early halter-broken and bitted, and ever treated with kindness.

Raising Colts.—Within six years I have raised three colts. The oldest one, "Ellen Frances," was stabled with her dam during the winter, and they were fed with oats in the sheaf. I have no definite konwledge of the amount of grain fed to them daily, therefore I dismiss the first colt by saying that I have never discovered any injurious effects from the grain she eat. The second one, "Bucephalus," was taken from his dam

the 20th of Oct., in good condition but not fat. I commenced, as I was told to do, with the half pint and two potatoe system of feeding, but continued it only a short time as it produced no effect; the quantity was then increased to one quart with good effect, and soon after to two quarts with still better result—he improved well the next summer—lived without grain the following winter, and is now a sound, uninjured colt, taking a bold stand by the side of the best young horses. The third one, "David Ringgold," was taken from his dam the first of Oct., and fed with two quarts of oats daily until the 2d day of January, when his feed was increased with two quarts of carrots. He did well, felt well, and was well. His growth during the next smmer was good; he is fed two quarts of carriots daily, this winter; is a good bay, two years old the 24th of next May, and can be bought for seventy-five dollars.

With all deference to the opinions of others, I have given my experience in raising colts. My object is to learn from the breeders of horses, whether it is a fact or a whim, that it is injurious to a young colt to feed it grain.

A FARMER.

[Berkshire Agriculturist.

Washing Butter.—Use of Saltpetre.—In our last number we published an article on butter making, on which we intended to make some comments. We doubt the utility of washing butter in cold water, as there recommended, and in hundreds of other cases. There is in butter properly made from good cows in the best of feed, a peculiar rich aroma and flavor, which is, we think, in some measure, washed away by the use of cold water.

We know that a thousand evidences may be brought forward to justify washing in the shape of Dutch butter, and good productions throughout the country. But we want something more than good butter. We want extra fine. Some say butter is an oil and water will not disolve it. But what evidence have we that the fine savor of butter consists in oil? We have seen butter that had all the peculiar properties of oil and grease, and yet so far from having a delightful savor, it had the contrary, and if used for crackers, as is often the custom with bakers, the odor was apparent in them, on wetting them in warm water. Water will surely extract the fine flavor of butter, as has been shown by putting balls of butter in salt water for preservation. It becomes insipid; and we have no doubt that washing butter has the same effect, only less from the transient operation. The finest butter that we ever tasted was well made without washing in water, and it was sometimes kept in the best condition one year, and with no other preservative but salt. We have found sugar an excellent preservative for butter not to be used soon, and so is saltpetre, but as to the effect of the latter on health much has been said, and doctors disagree, and we are not prepared for a decision on the subject. We have known saltpetre used as a medicine with excellent success, and whether it was killing the constitution with the disease or not, we cannot say. To preserve butter for a long time, it is usually salted high; and if we can modify this excess of salt, by using more palatable and salutary substances, of equal efficiency in conservative qualities, it will be an improvement. Sugar has these qualities. We have the opinions of chemists, judging from the composition, decomposition, and combination of various substances in their labratories, which are all very well so far as they extended, but we want the effect produced in the labratory of nature on the living animal. The plain practical effect is the philosophy that we need.

Preserving Butter.—The farmers in the parish of Udney, in the county of Aberbeen, practice the following method of curing their butter, which gives it a great superiority above that of their neighbors:—Take two parts of the best common salt, one part of sugar, and one part of saltpetre; beat them up together, and blend the whole completely; take one ounce of this composition for sixteen ounces of butter, work it well into the mass, and close it up for use. The butter cured with this mixture appears of a rich and marrowy consistence, and fine color, and never acquires a brittle hardness, nor tastes salty. Dr. Anderson says, "I have eat butter cured with the above composition, that has been kept three years, and it was sweet as at first." But it must be noted, that butter thus cured requires to stand three weeks or a month before it is begun to be used, if it be sooner opened, the salts are not sufficiently blended with it; and sometimes the coolness of the nitre will then be perceived, which totally disappears afterwards. The above is worthy the attention of every dairy woman.—*Edinburgh Journal.*

Recipe for Painting with Unslacked Lime.—Take one gallon of salt, mix it with ten gallons of water, and when it is well dissolved, add to it one bushel of unslacked lime, and mix it well together; then take one pound of ivory black, (or common lamp black,) dissolve it well with alcohol, (common whiskey,) and then add that to the mixture of salt, water and lime. Stir these well together, which will give you a beautiful granite color Now, if you wish to make of that a beautiful buff or yellow paint, add a spoonful of copperas, and you have it. If you want a deep jet black paint, take the mixture of salt, water and lime, (in the proportions above,) and add an additional quantity of ivory black, well dissolved in alcohol or whiskey, and you have it, omitting the copperas in that case. If you wish a paint of any color, take 1 gallon of salt, 10 gallons of water, and 1 bushel of lime, then take coloring matter of any description, and dissolve it well in

whiskey, add it to the salt, water and lime, (after they have been first well mixed,) and you have the description of paint you desire. Lime paint prepared in the above manner costs a small sum, and is as durable as the best oil paints, and has a gloss upon it resembling varnish. This lime paint will last five years upon the roofs of houses and fences by actual experiment.

L. G. ALEXANDER.

Certain Facts to be Borne in Mind by those who are Building.

One fact is, that a square form secures more room with a given cost for outside walls, than any other rectangular figure. Great length, and little width may afford convenient rooms, but at an increased expense.

Another fact is, that ventilation is an essential in a human dwelling. No other consideration should exclude this. The halls, windows, and doors, should be so situated with regard to each other, that a full draught of air can be secured, at any time, in the summer season, by day and by night, through the whole house. The stories should also be sufficiently high to afford a sufficiency of air in all the rooms. Nine feet is a good height for lower rooms, and eight for upper. Bed rooms should also be larger than they commonly are. Great injury to health is the result of sleeping in small close apartments.

The third fact is, that a steep roof will not only shed rain and snow far better than a flat one, but will last immensely longer, at the same time that it secures increased room for chambers, or garret.

The fourth fact is, that a chimney in or near the centre of the building will aid to warm the whole house, while if built at one end or side, the heat will be thrown out and lost.

The fifth fact is, that a door opening from the outside into any principle room, without the intervention of a hall or passage, costs much more than it saves, in the free ingress of air into it.

The sixth fact is, that the use of paint is the best economy, in the preservation it affords to all wood work.

Prairie Farmer.

Transferring the colors of Butterflies.—Separate the wings from the body; spread a little gum arabic water on the paper, on which lay the wings flat, in the most natural position possible, leaving room between them to paint the body, which cannot be thus pressed. Put a weight over the paper, and let it press until the gum is dry. On removing it, the membrane of the wing will be easily detached, leaving the colors upon the paper in all their beauty and brilliancy; almost any one can paint the body. I do not remember ever having seen this method published. To persons living in the country, it might afford a useful pastime by enabling them to make a splendid collection of butterflies with very little trouble. For beauty and correctness, no paint can ever equal it.

Hot Water for Trees.—In the April number of your paper, I noticed a remark on the experiment of pouring hot ley around the roots of a peach tree and the good effects that followed. To many of your readers this must seem a *fatal* remedy, and have a place assigned to it with the wild eccentricities of the age; but as to myeself, I am sanguine in the belief, that, if it has not produced the good result alluded to, it would do so with proper and timely applications; because it is known now that ley is an excellent wash for trees, cleansing them from external insects, and causing the bark to assume a young and vigorous appearance. I think so because I have heard of the good effects of scalding water poured upon the ground around trees, I am more than all confident that truth rests in the matter, from the fact that I have tried a somewhat similar experiment with perfect success.

The *particulars* in my own case are as follows:—

Some years ago, when shade trees were not so common as they now are (I wish for the comfort of many that they were more common at the present time,) I happened to be in the garden of a friend about the time of the expanding of the leaves, and saw in one of the borders a few locusts of from two to four feet high, which, as he said, he was going to eradicate from his grounds, simply because, as soon as they attained a certain size, they were destroyed by the borer, and then the roots threw up a multitude of shoots in all directions, and caused him much trouble, as well as vexation of spirit. With permission I took up several of these shoots, though he forewarned me of labor lost, and transferred them to my grounds. Probably, I brought the rudiments of the borer with them. At any rate they were there in such numbers, that their gnawings almost made me gnaw with rage. Actuated, no doubt, by a spirit somewhat congenial to that of the old lady, when she concluded to forestall the deadly working of the beach worm, I boiled water in a tea kettle, and poured it *boiling* hot from the spout, carefully over the trunks of these young trees, taking due care, where I could to fill every worm hole. The result was, I did not kill one tree; but the borers were all killed, or ran away—I do not know which. None have ever reported themselvs as wounded—none ready for service, unless, indeed, it were an occasional fugitive at the extremity of some unfortunate branch. But the trunks have never been troubled since, and those trees now assuming the venerable appearance of age, have rewarded me many times by their fragrant flowers and beautiful foliage for the little vexation I endured and the scalding water it required. Why may not the peach worm be rousted in the same way.

Since I am upon the locust, the inquiry occurs to me why is not this tree, so ornamental for shade, so rapid of growth, and so valuable for timber, more generally cultivated? Twenty

years, in New England, as cold as her climate and as hard as her soils are, give it a good degree of perfection. Farther south, a less period will no doubt give it growth enough to render it valuable for timber or for fuel. But if cultivators would succeed well with it in regions where the borer infests it, I should say avoid pruning. In my own experience I attribute the non-recurrence of the borer to the fact, that I let all the branches grow; and under the weight of summer leaves, they completely shade the trunks, keep them cool, and it may be, in this way, prevent the return of their deadly foe.

WM. BACON.

Richmond, Mas., April, 1848.

[Am. Agriculturist.

Irrigation.—Irrigation has been practiced by the Chinese and Egyptians from the remotest antiquity. In countries where rains seldom fall, and the ground becomes dry and parched, irrigation is of immense value. It consists in taking water from lakes, sewers, running streams or reservoirs, and causing it to flow over the land by means of small canals or furrows, then by proper outlets to carry it off again. It is confined, according to Colman and Johnson, almost exclusively to meadow lands.

The benefits of irrigation in a country where rains fall frequently and abundantly, are the same as those of manuring. When the water used holds in suspension any organic matters, they subside while the water remains on the fields, and leave a visible layer of manure on the surface, after the water is drained off. An example of the fertilizing effects of irrigation is seen in the lands along the banks of the Nile and Ganges. But the effects of irrigation with water that contains no organic sediments, must be considered the same as that of rains. Running water furnishes to plants some gasses, which are absorbed, and in this way are beneficial. Crops of young and tender plants should be irrigated by pure water: it may be repeated every two or three weeks when there is any want of rain, and the water be allowed to lie on the field only three or four days. It is thought by English Agriculturists to be injurious to meadows to flood them immediately after mowing.

Warping is a process similar to irrigaton: the object of this however is more especially to obtain the sediments of muddy streams, &c.; the water should never be allowed in either process to remain on the field until stagnated. Irrigation is most beneficial on land which is well drained beneath so as to allow the water to penetrate the subsoil, and not stand too long on the surface. Meadow lands are sometimes watered in the winter to prevent the injurous effects of frost upon the roots of the grass. Irrigation is not practiced to much extent in the United States; and the remoteness of many farmers from streams, as well as the expense attending the operation, will prevent its universal application, even where it would be beneficial.

M. M. RODGERS.

Rochester, N. Y., 1848.

A Valuable Article.—Mr. William Blake, of Akron, Ohio, called on us two or three days ago and exhibited an article that must, we think, become of great value. It was discovered sometime since in the township of Sharon, Ohio, and is taken from an excavation in a rock about twenty feet deep, and spreading over some six or eight acres. The substance is black, resembling indigo, and about the consistency of cold tallow, when taken from the mine, but an exposure for a few days in the atmosphere turns it to hard slate or stone. It has been found upon analyzation to contain about one-half silica, one-fourth alumina, and one-eighth byrites of iron, with lesser proportions of magnesia, lime, and carbon. From the extraordinary character of the article, it is supposed by geologists who have visited the mine that there must be some fissure or crevice in the bottom of the ditch, through which the article, in a liquid state, was ejected from below.

When the substance is taken out, dried, ground to a fine powder, mixed with linseed oil, and applied with a brush to either wood, tin, iron, cloth, paper, or bricks, and then exposed a few months to the atmosphere, it becomes a perfect slate, impervious to the action of the weather or to fire; the weather serving only to turn it to stone, and rendering it harder the longer it is exposed, while fire will char the substace to which it is applied before the slate will give way

We were shown specimens upon cloth and wood that were as fine specimens of school slate as we have ever seen, and would show pencil marks equally plain. It is also susceptible of the highest polish, as we saw a piece upon wood that was polished, and had the appearance of the finest Egyptian black marble. The article is of much value, we should suppose, for covering roofs, steamboats, dams, fences, buildings, and every thing else requiring protection from fire or the weather, or for fire fronts, carriages, or centre or bier tables, as it is in fact slate in a liquid state when applied, and in a few months acquires the solidity of the finest slate.

We learn from Mr. Blake, who has secured a patent for his discovery, that it is sold at his place at three dollars per 100 pounds, which will cover the roof of a building thirty feet square, or nine hundred superficial feet.

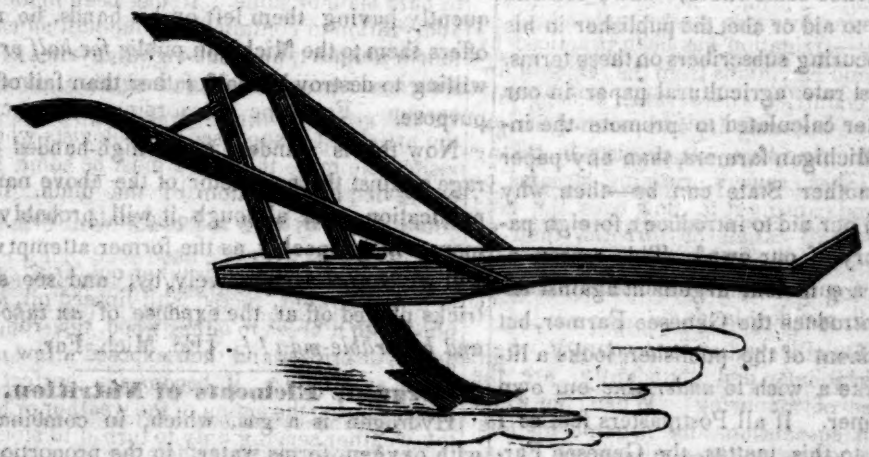
[*National Intelligencer.*]

Kyanizing Wood.—The process of preserving wood and fabrics composed of vegetable fibre, is likely to become very serviceable, and is already very extensively employed in Great Britain. Its efficacy in preserving timber from the dry rot, had been amply demonstrated in various experiments made in the ship yards of England.

Wood and various vegetable fabrics, which had undergone the preparatory process, had been exposed for years, to the influence of moisture and bad air, without sustaining any apparent injury, while the like materials, not submitted to the process, suffered rapid decay and destruction. The process of Kyanizing, as it is now termed, consists in immersing the wood or cloth, for a few hours or days, in a mixture of water and corrosive sublimate, in the proportion of one pound of the latter to five gallons of water. The mercury combines with the albumen of the vegetable matter, its most perishable part, and renders it insoluble, in the same manner that tan renders the gelatinous matters in hide so. Wood or linen or hempen fabrics, which are to be exposed to the weather, particularly in humid situations, or in the earth, may, by this process, be preserved for a great length of time.

Amer. Jour. Ag.

Hoeing Potatoes the second time.—We have frequently heard the remark, that hoeing potatoes the second time, caused them to re-set, thus greatly multiplying the number in a hill at the expense of size, and that therefore it was better to dispense with the second hoeing. But this effect follows only when the second hoeing is performed after the tops are in blossom. After that stage interference with the roots of the plant produces a re-set.



Mr. Editor:—From the above engraving, you will, at once, perceive that my plow is nothing more than a modification of the common coulter. The stock is identical with it in all respects. The plow, the part modified from the point to the beam, is in form an open, but irregular circle, the incurvation being greatest towards its lower extremity. The anterior edge from the point, as far as it is expected to enter the ground, is made very sharp, the bevel being altogether on the right hand side of the bar. The narrow wing or fin is welded to the bar some three inches in the rear of the point, and is made to proceed downward and backward. Thus constructed, to the eye of one in the position of the plowman, the left hand side of the bar from the beam to the toe or point is all the way a smooth, uniform, upright plane; whereas, the right side is that of an inclined plane, the wing or fin partaking of the inclination of the beveled side of the bar.

The advantages of the structure consist, first in its cutting edge, by which, of course, the furrow slice is separated with a facility corresponding to the difference between the action of a blunt and a well sharpened instrument. And secondly, by reason of the bar and fin having the same uniform inclination throughout and acting at an acute angle against the land to be broken, the power of the inclined plane, (the most potent of the mechanical instruments,) is made available in loosening and crumbling the subsoil, and there, as I conceive, are the elements of its power and superiority. But, in the structure and management of the plow, as in almost every mechanical operation, successful results are often dependant upon incidental, and apparently trivial considerations apt to be overlooked, or not understood.

The performance of the above plow has been published to the world by a Committee of the Agricultural Society at Pendleton, and on authority that no one will presume to question, Yet, I have occasionally met with individuals who have not been able to realize their anticipations from it. The cause of failure, in such cases must arise from some mechanical defect in the construction of the plow or stock, or unskilfulness in the arrangement of the clevis, the set of the bar in the beam, or the gearing of the team, &c.

Hoping, however, that a correct engraving may enable every true believer in the policy of subsoiling, to supply himself with a superior plow, and at less cost, I am, with great respect,

O. R. BROYLES.

Pendleton, S. C., May, 1848.

MICHIGAN FARMER.

WARREN ISHAM, EDITOR.

PUBLISHED SEMI-MONTHLY—TERMS $1 IN ADVANCE—FIVE COPIES FOR $4.

At his old tricks Again.

LETTER FROM A POST MASTER.

P. O., TRENTON, Mich., July 17, 1848.

MR. ISHAM, Dear Sir:—I have just received a copy of the Genesee Farmer with the enclosed notice. Believing, as I do, that the publisher of that paper cannot afford it on the terms he proposes, it looks to me as though there was "a nigger under the fence somewhere," and I for one am not willing to aid or abet the publisher in his designs, by procuring subscribers on these terms. We have a first rate agricultural paper in our own State, better calculated to promote the interests of our Michigan farmers, than any paper published in another State can be—then why should we lend our aid to introduce a foreign paper, to the injury of our own? This reason alone should be a sufficient argument against endeavoring to introduce the Genesee Farmer, but this new movement of the publisher looks a little too much like a wish to *undermine* our own Michigan Farmer. If all Postmasters feel as I do in relation to this matter, the Genesee Farmer will get but few new subscribers in this State, notwithstanding their *half price* bids.

Yours truly, H. J. ALVORD.

TO AGENTS OF THE GENESEE FARMER.

As we are printing about two thousand copies more than we wish to retain for binding, Postmasters and other Agents are informed that we will (until our edition is sufficiently reduced,) *furnish the present volume of the Farmer at half price*—Four copies for $1, and any additional number at the same rate! The back numbers will be sent, so that all may have the volume complete for binding at the close of the year.

This reduction will afford no profit to the Publisher, and is only made to Agents, &c. We therefore hope that those who receive this notice will avail themselves of the opportunity it offers, and benefit themselves and their agricultural friends by extending the circulation of the Farmer. Address (post-paid or free,) to

D. D. T. MOORE, *Rochester, N. Y.*

Rochester, July 15, 1848.

REMARK.

Another forgery, no doubt, by the same arch-enemy of the above named publication, who put forth the forged prospectus, a few weeks since, in which an appeal was made in behalf of the Genesee Farmer, on the ground that it was *so much cheaper* than the Michigan Farmer, the design of the forger being to raise a prejudice against the proprietor of the former publication, with a view to drive it from the State. We doubt not the above circular originated from the same source, with the same evil intent. It is as if he had said, "D. D. T. Moore calculated so largely upon the effect of the appeal against the Michigan Farmer, in the said prospectus, (which appeal was inserted only in the Genesee Farmers sent to Michigan,) that he printed two thousand extra copies, and being disappointed in his expectations of orders for them, and consequently having them left on his hands, he now offers them to the Michigan public *for half price!* willing to destroy himself rather than fail of his purpose.

Now this is slander, and a high-handed outrage against the proprietor of the above named publication, and although it will probably be money in our pocket, as the former attempt was, still we cannot sit passively by, and see such tricks played off at the expense of *an innocent and honorable man!!*. [Ed. Mich. Far.

Organic Elements of Nutrition.

Hydrogen is a gas, which, in combination with oxygen, forms water, in the proportion of eight pounds of the latter to one pound of the former. It is the lightest of all known substances, being sixteen times lighter than common air. It is on account of this quality, that is used for inflating balloons. Indeed such is its exceeding rarity and expansibility, that it becomes necessary to impregnate it with carbonic acid gas, and thus to increase its density, to prevent its escape through the texture of the balloon. It is highly inflammable, but does not itself support combustion. In its pure state it is fatal both to animal and vegetable life, yet it enters largely into the animal and vegetable economy. Of starch, sugar and gum, it constitutes about 7 per cent, of acetic acid, (acid of vinegar) 6¼ per cent, of the wood of oak about 5½, and of beeswax 12½ per cent. It is derived from the decomposition of the water which is taken up by the roots of plants, or rather a portion of it, the greater part being exhaled from the leaves, leaving behind the salts it held in solution. Woody fibre is formed of carbon, oxygen and hydrogen—in other words, of carbon and the constituents of water, that is, oxygen and hydrogen, in the

proportion in which they exist in water. Now the amount of oxygen required to form carbonic acid gas, is precisely the amount required to form water in combination with hydrogen—so that it is entirely immaterial whether the oxygen of the water is assimilated, and that of the carbonic acid expelled, or *vice versa*.

In either case, hydrogen plays an important part in building up the living structure. In either case, water is so far decomposed in the process, as to furnish the required amount of hydrogen.

In the process of decay of animals and vegetables, the hydrogen which constituted a part of their living structure, unites with the oxygen of the atmosphere and forms water, while the oxygen which entered into its composition, unites with its carbon, and is given off in the form of carbonic acid gas.

Plants growing in the shade, or which, from other causes, have put on a pale and sickly appearance, have been observed to assume a deeper green and more healthful appearance, by being surrounded moderately with hydrogen gas. Its moderate application to the roots of growing vegetables, has also been found to be beneficial as is manifest from the increased luxuriance observable in vegetables, whose roots find nourishment in soils where this gas is emitted, over drains, &c.

This gas may be analyzed in the following manner. Take a tablespoon full of iron filings and put them in a half pint glass retort, add one gill of water, and then pour moderately upon them a half a gill of sulphuric acid. As soon as the acid strikes the iron, the oxygen of the water unites with it, forming oxide of iron, with which the sulphuric acid unites, forming sulphate of iron, or copperas. The hydrogen of the water is, of course, set free, and being so much lighter than common air, ascends rapidly. If the mouth of the retort be held under an inverted jar, this gas will ascend into it and occupy it exclusively, resting its base upon the atmosphere below. In this manner, it may be examined. If a lighted candle be held at the point of contact between the hydrogen and the oxygen of the atmosphere, the former will burn brilliantly. If the candle be thrust up into the jar, so that it will be wholly immersed in hydrogen, it will be extinguished, while the hydrogen which is in contact with the atmosphere, will still continue to burn, and as the candle is drawn out, it will be re-lighted at the point of contact. This proves conclusively, that while hydrogen is highly inflamable, it is incapable of supporting combustion.

Water in the Atmosphere.

The watery vapor in the atmosphere exerts an agency in promoting the growth of vegetables, of which few are aware. The effect produced by its descent to the earth, in the form of rain, is obvious to all. The agency which it otherwise exerts, though less marked and obvious, is, perhaps, not less imporant.

It is a well established fact, that the earth absorbs water from the atmosphere, and that in proportion to its dryness. On the other hand, it is a fact equally well established, that the drier the surface of the earth is, the more abundant is the watery vapor in the atmosphere. This is rather a matter of course, as the water evaporates from the earth into the atmosphere. In a season of great drouth then, the atmosphere is charged with this vapor in a high degree, just at the time when its influence is most needed.

We see the reason then, why loose, porous soils stand a drouth better than close, compact soils.

We see the reason also why stirring the earth in a drouth, is so vastly advantageous. There are those who are in the habit of stirring the earth in a drouth, among their crops by plowing and hoeing, when not a weed is to be seen, on account of its highly beneficial effect.

That the atmosphere pervades the surface of the earth, is a fact too obvious almost to need proof. Its immense weight, or, in other words the force with which all things are drawn towards the centre of the earth, by the power of gravitation, is evidence enough of the fact.

It is also an interesting fact, that under the expanding influence of the heat of the day, the atmosphere is inhaled into the earth more abundantly, while under the contracting influence of the cold of the night, it is emitted from the earth, so that there is a sort of respiration going on in the soil continually, a breathing in of the atmosphere during the day, and a breathing it out during the night.

The watery vapor which is inhaled by the soil, of course, holds in solution more or less of fertilizing matters, as ammonia, carbonic acid, &c., which are thus to some extent supplied to the soil.

Extraordinary fall of Rain.—We learn from Dr. Duffield, that the fall of rain during the last month (July) up to the morning of the 31st was 11 inches and almost four tenths, in depth, a quantity, he remakred, greater than he had ever known to fall in a single month. The following table taken from the footing of his books, shows the amount of rain which fell on each month during the year, ending with June 1848.

		Inches			Inches
July,	'47	5.819	Jan.	'48	2.895
Aug.	"	1.484	Feb.	'48	2.605
Sept.	"	2.377	March,	'48	0.447
Oct.	"	6.947	Apr.	'48	2.870
Nov.	"	3.780	May,	'48	3.535
Dec.	"	1.495	June,	'48	3.420

Making, for the whole previous year, 37 inches, six tenths and a fraction over, a depth greater than usual, the general average of years being about 32 or 33 inches. But averaging the whole year by the last month would make the depth of 138 inches.

Horticultural Exhibition.—Another monthly exhibition of the Detroit Horticultural Society came off last week with considerable eclat. There were some fine specimens of vegetables, fruits and flowers. Among the vegetables we noticed a large head of cabbage, and large beets, carrots and potatoes. There were some very tempting specimens of fruits, from Mr. Dougal, and Hubbard & Davis, especially of apples, among which the early harvest particularly struck our fancy. The goosberries, were very fine, presenting the appearance almost, of plums. Among the flowers, was the Dahlia in its unrivalled beauty. Visitors numerous.

☞We have received from the Commissioner of Patents, some blank schedules, with the request, that we will forward them to persons in different parts of the State, to be filled up with the estimated amount of produce raised in the different Counties the last year, as compared with former years, to be embodied in his next annual report. We will endeavor to forward them as speedily as we can ascertain the whereabouts of persons, who have both the qualifications and the disposition to attend to the matter.

Dr. Broyl's Subsoil Plow.—We are at last enabled to give our readers a cut of this famous instrument, an account of which was given in our fifth number. It will be remembered, that in that account its great superiority over the N. York plow, was fully established. In simplicity and cheapness of construction, it has greatly the advantage over any instrument of the kind we ever heard of.

Another volume of the transactions of the N. Y. State Agricultural Society.

We have received from the Secretary of the N. Y. State Agricultural Society, B. P. Johnson, Esq., through the kindness of T. C. Peters, Esq., of Buffalo, the transactions of that Society for the last year, a neatly bound volume of 800 pages, ornamented with numerous splendid engravings. It is a volume of surpassing interest, and will do much to advance the interests of the great cause to which the officers of that Society are so enthusiastically devoted. We shall endeavor to turn it to good account. It is but a few weeks since we acknowledged the receipt of the volume of transactions for 1846. These are rich favors, and to us of inestimable value.

For the Michigan Farmer.

Theory and Practice.

Having been bred a farmer, and always fond of experimenting, what I shall say at this or any other time will be founded on personal practical observation and experience. For although I do not underrate *the theories* of scientific men who have written on these and kindred topics, yet I never give full credence to their opinions, until I have satisfied my mind as to their truth and importance by actual experiment, not on a large scale, it is true, nor where a mistake would be attended with too much loss, for in that case one's knowledge might be purchased too dear and we have to regret, when too late, that we had pinned our faith to another man's sleeve. This may be considered by some, as *Yankee caution*, and rather to be despised than followed; but believing it to be commendable and safe, I recommend it especially to the consideration of young farmers and gardeners.*

By way of illustrating what I have here said, I beg leave to mention a case which happened in my neighborhood this spring, where the fault and misfortune was occasioned by a *strict adherence* to rules laid down in Downing (I believe) who is considered by all of us to be very good authority.—Having read that *salt*, spread on the ground under plum trees, would prevent the ravages of the curculio, a friend of mine procured a large quantity and scattered it under three of his largest and most valuable plum trees. The result was as he might have feared if not expected. The curculio were killed and the

trees also.—This same gentleman raises as fine asparagus, with the help of salt as a manure, as I ever saw, thereby improving its growth and flavor; but he ought to have observed, it seems to me, that while it thus benefitted the asparagus it absolutely killed every other living thing on the bed, not a single weed excepted.

Another person of my acquaintance having been told that pulverized charcoal was an excellent manure when placed around the roots of trees, applied it in large quantities to his peach trees and the result more than exceeded his expectations, for while it acted as an excellent manure, it also destroyed every worm and grub which were devouring the roots. This latter gardener had observed that while salt *stimulated one plant*, it killed others, and he had also observed that charcoal, whenever and wherever used was a great fertilizer and killed no vegetables, although a deadly poison, in the shape of gas, to every living animal.—I mention these facts to show that *thought*, appropriately applied is as necessary in farming and gardening as in any other department of science.†

REMARKS.

*A caution which we have more than once recommended. A man must have an amazing amount of gullibility to be willing to launch forth into expensive outlays, to test the practicability of a theory, when the same end might have been secured at trifling expense. And thus it is that book farming, as it is called, has been brought into disrepute—more from the rashness and indiscretion of experimenters, than from erroneous theories. Here is a man, who reads of a theory, and it may be, of its having been carried out in successful experiment, and forthwith without any regard to disparity of circumstances and perhaps with the omission of some necessary step in the process, he resolves to enter into it upon a large scale, and the consequence is a failure, with great loss—not pecuniary loss in that particular case alone, but a loss of confidence in all improvement, involving a loss in the benefits arising from the advance of the age.

We met with an individual of this description in Oakland co. a while ago. He had read, that it would greatly increase the yield of potatoes to clip the tops, and forthwith he enters his field scythe in hand, and makes a clean sweep, taking them off about half their length. The consequence was that not a potatoe grew to a tolerable size, whereas, had he taken the pains to inform himself accurately, he would only have taken off a half inch from the tip ends. That man, of course, became an inveterate opposes of book farming—the potatoe tops were always present to his mind, whenever the subject was mentioned. —Ed.

†Here then are experiments of three different kinds, suggested by scientific investigation —two successful ones against one failure. Very well, suppose a man hits the mark in two instances out of three—is he likely to loose more in the one instance, than he will gain in the other two?

And besides, the man who made a failure in the application of salt, is somewhat in the predicament with the man who mowed down his potato vines, instead of pinching off the tip ends. He seems to have gathered up all the salt he could lay his hands on, as though his sole intention was to kill his trees. A very little science would have taught him better.

That the application of salt should be death upon weeds, while it caused the asparagus to grow with vastly increased luxuriance, is certainly a two-fold advantage, and shows in a striking light, the importance of agricultural science, to enable us to understand what particular kind of food, each species of plant demands, that we may avoid administering poison, instead of appropriate nutriment, the very elements required for the growth of one species, being death to another.

That charcoal must, as a matter of course, be a good manure for trees of every description, is sufficiently evident from the fact, that the woody fibre in all trees is mostly formed of carbon, or charcoal. It would be strange indeed, if it were otherwise. Ed.

For the Michigan Farmer.

Meeting of Detroit Horticultural Society.

The Society met on Tuesday evening, July 11, at the Hall of the Detroit Institute.

The following gentlemen were elected members of the Society, to wit: Alanson Sheely, Charles Howard, George Crabb, J. A. Armstrong, J. L. Traver, and Rev. Mr. Harris.

The Society were then favored with an address on the cultivation of the Strawberry, by W. A. Bacon, Esq., after which it was resolved that the thanks of the Society be tendered to Mr. Bacon for his interesting and instructive address.

Rev. Geo. Duffield was selected to address the Society at next meeting, and the Secretary was instructed to invite the public on that occasion.

It was on motion Resolved, That we adopt the

amendments to the rules of "American Pomology," as published in the April (1847) No. of the "Horticulturalist."

F. RAYMOND, Sec'y.

CULTURE OF THE STRAWBERRY.

Read before the Detroit Horticultural Society by W. A. Bacon, and furnished for the Michigan Farmer by request.

In the cultivation of the strawberry several things are necessary. In the first place the soil must be mellow and rich, and kept free from weeds. I do not think that a sandy soil is absolutely necessary. The stiff clayey soil in this city, if loosened with spade or hoe after the ground has been softened with showers, answers the purpose well. If the beds are slightly shaded with trees, so much the better, as too much heat and light brings the fruit to maturity before full grown. You may all remember that when searching in the fields for strawberries, the smallest, most numerous, but sweetest were found on the little hillocks, almost destitute of grass, exposed to the sun, while the largest and most desirable were found along the border of the meadows, near the woods, partly shaded and protected from the full influence of the sun. This fact induced me to plant strawberries under the trees in my garden, and I think all who have seen my fruit will bear testimony that at least it is not deficient in size.

VARIETIES.

There is a great choice in the *kind* or *variety* of fruit planted: some prefering one kind and some another. For my own part I prefer several varieties in the same bed, for reasons that will hereafter be stated. The English Red Wood, and Virginia Scarlet are prolific bearers and being *perfect plants*, may always be relied upon, for a large and valuable crop. I have never known them fail, unless killed by the frost, while several other of the larger and more highly prized varieties, sometimes fail to the great disappointment of the cultivator. The Red Wood I have mentioned first, as I consider it the most valuable strawberry cultivated in this country. Hovey's Seedling is noted the world over, for being one of the best strawberries ever originated. I have myself raised them 5½ inches in circumference. The flavor is delicious—Impressed with grateful feelings towards Mr. Hovey, for conferring so great a blessing on mankind, the Massachusetts Horticultural Society presented him last year with a silver pitcher worth $50, with a complimentary inscription and the thanks of the Society. Having said so much in favor of this *variety*, I am sorry to say that it is not an *annual* bearer. Last year I produced it in perfection; this year, with the same culture, I have failed. I deem it, however proper to add that I allowed the runners to remain on the vines till autumn for the purpose of propagation, and also that they were trampled upon by many persons at the time of the fire on my premises, which may have been the cause of the failure. I think not however, as other varieties similarly situated were not injured, and I have learned from others that their Hoveys' Seedling, this year, had disappointed them. In my case it could not have been for the want of pollen as my Hovey's Seedling are interspersed with English Red Woods. There is one other kind, Hudson's Bay, which in some respects is preferable I think, to either of the others, although not a prolific bearer, its fruit is of the largest size, and so far as I know can be relied upon. It was this fruit whfch took the 1st premium at our last fair, and the 2d premium the year before. It ripens its fruit several days later than either of the other kinds mentioned, which is a valuable consideration where all are cultivated.

TIME FOR TRANSPLANTING.

I consider the spring the best time for transplanting the runners into new beds, although the fall is preferred by some. It will be found that *runners* allowed to remain with the parent plant till spring are stronger and better rooted than when taken up in the fall. Much however depends upon the season. If wet, they will obtain sufficient root, when planted in August or September to produce well the following year. But generally it is too dry at that season and the plants die unless watered, which requires too much attention.

TREATMENT AFTER THE BEARING SEASON.

My strawberries are set in rows 18 inches or 2 feet apart, so as to give ample room for hoeing between them. I do not deem it necessary to be particular about the distance between the hills, provided there is room between the rows, for the plants to spread themselves. After the bearing season is over, say in August, I take off the tops close to the ground with a scythe. The ground is then spaded up thoroughly between the rows, and loosened between the hills, taking care to root out every thing in the shape of weeds. A heavy iron rake is then drawn over the bed, giving it the appearance of a wheat field after harvesting. This might be considered dangerous practice by some, but it is done by the best gardeners East, and is the course which I pursue. It affords a better opportunity to kill the weeds; it destroys the runners; it gives rest to the plant during the dry season, and when the *fall rains* set in, young and vigorous plants shoot up in abundance in prime order for bear-

ing the coming year.—Late in autumn coarse manure or straw is thrown over the beds to protect from frost, and this is raked off or spaded in, as the case may require the following spring, when the earth should be repeatedly hoed, until the blossoms appear, after which and while bearing it is better to let them alone.—Some place straw between the rows for the double purpose of keeping the earth moist and protecting the fruit.

GENDER.

I now come to what I consider the most important fact necessary to be known in the culture of the strawberry. I have reference to its *gender*. Until recently it was not known to Botanists themselves, that some plants like animals were created *male* and *female*. To Mr. Longworth of Cincinnati, I believe, belongs the honor of this discovery. Like all others who had attempted to cultivate strwberries for market on a large scale, he found that while some plants always bore well, and never disappointed his expectations, others, although prolific in flowers, were always barren.—His disappointment and vexation was so great, that he set himself to work like a philosopher to discover the cause; the result is well known. He ascertained beyond doubt, that while some plants produce flowers perfect in themselves, containing pistil, stamen, anther and pollen, others and by far the *best variety*, are always distinct in their gender either male or female. The first are called hermaphrodites, and produce fruit without being impregnated by others, of this kind are the Alpine and Red Wood varieties. The Hovey Seedling and Hudson Bay, whatever may have been their gender at first, are now pislillate or female plants, never bearing fruit without impregnation from staminate plants, and are therefore barren when standing alone. It is true that a slight impregnation occasioned by bees in their flight from flower to flower, may and generally does take place, which will account for the few imperfect berries found under such circumstances, but the crop will invariably fail. In proof of this assertion I will state that Dr. Cobb and C. C. Trowbridge both planted beds, the former Hudsons Bay and the latter Hovey Seedlings with plants from the same garden as my own, and cultivated in the same manner, with the exception that mine were interspersed with English Red Wood and Swiss Alpine, and that while I have gathered bushels from a bed 15 feet wide by a hundred long, they on a similar plat of ground have scarcely gathered a quart. The Dr. thought the fault was in the *variety* and dug his vines up last fall, but is now convinced of his error, and has engaged from me the same variety to replant his bed. If Mr. Trowbridge is wise, he will take up every fourth or fifth plant of his Hovey Seedling and replace them with staminate plants.

In contemplating this subject, one cannot help admiring the wonderful provision of nature, for the preservation and continuation of each and every one of the innumerable classes and varieties of plants on the face of the earth. One is also encouraged by every consideration to study nature's laws, as by so doing we may reasonably hope to have our labors crowned with abundant success.

For the Michigan Farmer.

Pomological Convention at Buffalo.

It is doubtless known to most of the fruit growers throughout this state, that the New York State Agricultural Society will hold their annual fair at Buffalo on the 5th 6th and 7th of September next. This society has also called a Pomological convention, to be convened in Buffalo on Friday September 1st, and continue its sessions until the close of the fair. Having been requested to call the attention of Michigan fruit growers to this convention and fair, I would state in the words of Professer Coppock's circular, that the great objects of the convention, apart from general discussion, are to identify synonyms, to correct errors in the names of fruits, and to establish an uniform nomenclature. It is very desirable that specimens of all new seedlings should be produced. I am requested to give a general invitation to fruit growers throughout this state, to forward specimens of their fruits, and as far as practicable to attend the convention in person. No state in the union is capable of producing fruits superior to the fruits of Michigan, but its fruit nomenclature is in some confusion, and requires to be corrected. Undoubtedly this will be the best opportunity we will have for a long time, to accomplish this desirable result. We will then have an opportunity of comparing the fruits of the West, with those of the East. Let us send forward as many specimens as possible, whether of seedlings or named varieties. In doing this, we benefit ourselves as well as others.

Persons desirous of sending specimens and not finding it convenient to attend themselves, can if they wish, forward them to me and I will see that they are forwarded to the fair. Where specimens are forwarded to me, the donors will please give the names of the specimens, where they have names, where they have none, please give a history of the fruits as far as possible.

J. C. HOLMES.

President Detroit Horticultural Society.

Detroit 26th July, 1848.

No. 108 Jefferson Avenue.

For the Michigan Farmer.

Horticultural Exhibition.

At the exhibition of the Detroit Horticultural Society, held July 25 at Rough and Ready Hall—the following fruits, plants and vegetables, were exhibited.

By James Dougal—Apples, Early Harvest, Large Yellow Bough, Alexander, Red Astracan, Keswick Codlein, Summer Seek-no-Further, Pears "Madelein."

Goosberries.—Ear. "General D'Roxenburgh," "Warrington," "Lyon," "Speechleys Yoxley Hero," "Champagne," "Ocean" "Wellington's Glory," Seedling Goosberries.

Flowers.—By the same.—Collection of Dahlins, Balsams, Hollyhocks, Cut Flowers.

By Hubbard and Davis.—Indigenous Plants, Cut Flowers, Dahlias, Dish Orange Pippin Apples, Red Margaret, Cherry Plums, Red Currants.

By Mrs. A. C. Hubbard.—Splendid Moss Vase.

By W. Adair.—Dish Apples "Wine." Luxemburgh Rose, Sensitive Plant, variety of Dahlias.

By P. Desnoyer.—Collection of Dahlias.

By John Ford.—Collection of Vegetables, Brace of Cucumbers, Dish of Tomatoes, Bunch of Blood Beets, half peck of Beans, 18 varieties of Hollyhock, a collection of Cut Flowers.

By J. C. Holmes.—15 varieties of Dahlias, collection of Cut Flowers.

By Mrs. Fanswoorth.—Hoya Carnosa and Agapanthus.

By A. C. Hubbard.—Bottle of Catawba Grape Wine.

By M. H. Webster.—Cactus Grandiflorus, Achania Mollis, plant name not known.

By Mrs. McFarlane.—Cactus, Mycradosis, Achania Mollis

By Benj. Briscoe.—Collection of Dahlias.

By John Deane.—Collection of Dahlias.

By W. S. Pattison.—Dish of very laage Pinkeye Potatoes.

By Geo Crabbe.—Two bunches of Carrots.

The following premiums were awarded:

For the best collection of fruits	$1.50,	J Dougal.
2d " "	$0.75,	Hubbard & Davis.
Best dish Apples,	50,	" "
2d "	25,	James Dougal.
Best dish Goosberries	50,	" "
2d "	25,	" "
Best dish Pears	75,	" "
Best collection of Dahlias	75,	J. C. Holmes.
2d best " "	38,	John Ford.
Best single variety	38,	W. Adair.
2d best "	18,	J. Dougal.
Best coll. Cut Fower	75,	"
2d best " "	38,	Hubuard & Davis.
Best Rose	38,	W. Adair.
Best coll. vegetables	1.50,	John Ford.
Best brace Cucumbers	38,	"
Best dozen Tomatoes	50,	"
Best coll. Blood Beets	38,	"

M. H. WEBSTER.
W. R. NOYES.
Committee.

NEW INVENTION.

Improvements in Steam Boiler Machinery.—Among the numerous inventions and improvements that have been recently made or attempted, there are few which promise to be of greater public advantage than the steam boiler which has been patented by Mr. James Montgomery, and which is already in successful operation in different manufactories in this city and elsewhere. Its merits have been sufficiently tested to establish its superiority above all others that have ever been employed, and there is little doubt but it will speedily come into general use. In some of our principal fouudries and machine shops, boilers which were well arranged, of the ordinary make, have been taken down, and those of Mr. Montgomery have been substituted in their place, and like alterations are still going on in others, and those too the most extensive establishments amongst us. The first engineers and the most experienced and practical mechanics in this country, who have seen and examined this boiler, give it their decided approbation and prfeerence, and it must, most unquestionably, create an entire revolution in the mode of making boilers. It seems, in fact, to unite every advantage, economy in time, fuel, and space for generating steam. It requires on an average not more than 60 per cent, of the amount of fuel, space, weight or quantity of materials, and time required, to produce any given head of steam, and that without the annoyance or danger from sparks, soot, incrustations of salt or lime in the boiler, or sediment from the water, and with the safety guard attached it is an effectual preventive, of even the opportunity or probability of explosion. And incredible as this statement would appear, the most satisfactory and ample testimonials from the most respectable and competent sources, and such as are entitled to the most implicit confidence, have been received, and are published, that this is actually the case. We may well wonder that one individual has been able by his ingenuity and skillful contrivance to obviate at once so many of the objections that were applicable to the old fashioned boiler, and by a method of construction peculiarly his own, to concentrate such a variety of valuable and useful properities. The article of fuel alone, which it will save, will be of the most incalculable benefit not only to manufacturers, but to the public generally. Then also, nearly, if not quite one half the quantity and weight of iron will be hardly necessary to answer the same beneficial results. Boilers of this description, on ship, board, or in boats propelled by steam, will take up only one half the space, leaving much more room for freight, or, for the accommodation of passengers, and buildings of less size will be required where steam is employed for manufacturing purposes. To say nothing of the saving of time which it will take to raise a sufficient

head of steam, which will be equal to such an amount of wealth acquired, the safety that it will ensure to travellers, to property, to manufacturers, the bare mention of its numerous advantages, cannot fail to gain for it unequalled celebrity, and its inventor is destined to reap as he is justly entitled, corresponding emolument and advantage. This boiler is of a tubular form, and so constructed as to cause a rapid circulation of water over the fire surfaces, so as to protect the tubes from burning, and prevent sediment or incrustations from adhering, and will be best understood by a reference to the patentee, and a personal inspection, where it is already in use. —*Farmer and Mechanic*

GENERAL INTELLIGENCE.

New York, July 21—6 A. M.

The steamer Hibernia arrived this evening. She sailed from Liverpool on the 8th inst.

Liverpool Markets.—Corn 32a32s 6d; Meal 13s 3da13s 9d; Flour 27s 6da28s; Wheat 6a8s per bush. London money market improving. The revolution has assumed a more promising aspect, the late insurrection having been completely quelled and tranquility restored.—Cavignac, as the irresponsible dictator of France, seems zealously occupied in consolidating the government. The funds are improving, and for the first time since the monarchy, the hope is raised that France will rescue and form herself after all the bloodshed and sacrifices an efficient, and moderate executive. Lamartine and Ledru Rollin are constantly watched. It is generally believed in Paris that Consaitate was at the head of the late insurrection. There are reports of a revolution in St. Petersburgh, in which 300 lives were lost. The cholera is making fearful progress. Six new hospitals have been opened in Moscow. Rome is in a disturbed state. Carlists rising commenced in Spain. Several conventions in Ireland for drilling. Warrants issued against publishers for felony. Bill found against Delvin Reilly for drilling. Reilly is at Edinburgh. Resistances being made to annuity tax. Chateaubrand died on the 4th of July. M. Carnot resigned. Over 100,000 soldiers in Paris. An armistice of 3 months concluded between Germany and Denmark. Great excitement in Berlin. Arch Duke John appointed Lieut. General of the German Empire. Chas. Albert is inactive. The Austrians have possessed themselves of nearly all the thirty-six Venetian provinces. Fire in Morrel district, Russia. Loss 685,000 pounds. 3000 houses burnt.

New York, July 25—7 P. M.

The steamer United States, Capt. Hackstaff, which sailed from Havre on the 12th, arrived at New York at 10 A. M. to-day. France is tranquil now, under the rule of Cavaignac, but not content. Another struggle probable, distress and bankruptcy are almost inevitable. The Assembly are still discussing the proposed constitution. The right of universal education is earnestly contended for. Mr. Corvey, the communionist leader, has appealed to government for transport of himself and family to Texas. General Beridier died on the 8th of wounds. Several disturbances took place on the 1st inst., at Cassell. Germany.—A fight occurred between the parties in favor of Duke John and the Republicans. Spain.—The town of Ressalia, in Catalinia, has been taken. A siege of Verona was to take place on the 15th. Gen. Leiorens, leader of six thousand men, entered to take possession of the principalities of the Danube. Letters from Naples speak of the frightful confusion that reigns in that country. Accounts all agree in saying that the royal cause is deeply compromised, and that the soldiers would be easily led away by the populace en masse.

A dispatch in the Sun dated Paris 7th inst., says, Lamartine does not intend to travel to Palestine as has been announced, but he has made preparations to leave for the United States from Havre on Monday.

Later from Mexico.—Dates to the 7th from Mexico state that the forces of Bustamente and Cortazan have been consolidated, and amounting to 3000 men, are intending to attack the insurgents. Jarauta was endeavoring to bring the question of the constitutionality of the Treaty before the Supreme Court, and has entered a formal protest against its enactment.

The Mexican government had dispatched a Mexican vessel with troops to Yucatan to protect the inhabitants of that country.

BY TELEGRAPH.

Arrival of the Steamer Europe!!! Another plot in Paris!!!

N. Y., July 27—8. P. M.

The steamer Europe, Capt. Lott, arrived at Boston from Liverpool this morning. Another plot has been discovered in Paris. Preventive measures were taken to suppress it and cannon planted in the streets. The insurrection in Spain grows stronger. Orders are given to shoot instantly every Carlist chief taken. The cholera is spreading in Russia. Piedmont has been proclaimed a Repudlic. Germany is still very unsettled. Ireland is represented to be on the verge of insurrection. Meagher is arrested and in prison.—A collision took place between the troops and people, but no blood shed. Both portions of the Irish are rising in the most threatening manner.

Revolution in Mexico.—A Telegraphic despatch announces the triumph of the insurgent forces in Mexico, under Paredes, over the government forces under Bustamente.

☞The wheat crop is represented as universally good all over the country. In our own state it is a full average. Some slight injury has been done by the rains.

TERMS.—The MICHIGAN FARMER is published at Detroit, twice a month, by WARREN ISHAM, at one dollar a year in advance—after three months $1 25—after six months $1 50—after nine months $1 75. No subscription taken for less than one year, nor discontinued till all arrerages are paid. To clubs, five copies for four dollars.

Office, on King's corner, third story.

DETROIT PRICE CURRENT.

Flour, bbl.	$4 00		Salt,	$1 25	a $1 50
Corn, bus.	a 40		Butter,	9 a	12½
Oats,	a 35		Eggs, doz.		11
Rye,	a 42		Hides, lb.	3 a	6½
Barley,	56 a		Wheat, bus.		80
Hogs, 100 lbs.	3 00 a 3 50		Hams, lb.	6 a	6½
Apples, bush	a 1 00		Onions, bu.	41 a	50
Potatoes,	62½		Cranberries,	a	1 25
Hay, ton,	8 00 a 10 00		Buckwheat 100 lbs.		1 50
Wool, lb.	14 a 28		Indian meal, "		1 00
Peas, bu,	a 75		Beef, do	3 50 a	4 50
Beans,	75 a 80		Lard, lb. retail,		7
Beef, bbl.	5 00 a 6 00		Honey.		10
Pork,	8 00 a 10 00		Apples, dried,		1 00
White fish,	6 00 a 7 00		Peaches, do	a	2 00
Trout,	5 50 a 6 50		Clover seed, bu,		4 50
Cod fish, lb.	5 a 5½		Herd's grass do do		1 00
Cheese,	6 a 8		Flax do		75
Wood, cord,	2 25 a 2 50		Lime, " bbl		75

SELLING OFF.

LINNÆAN BOTANIC GARDEN AND NURSERY. Late of WILLIAM PRINCE, deceased, Flushing, Long Island, near New York. WINTER & Co., Proprietors. In consequence of the decease of the Junior, and of the advanced age of the surviving partner who therefore intends to relinquish the business, the entire stock of this establishment, comprising every description including the newest and choicest varieties of Fruit and Ornamental Trees, Shrubs, Vines and Plants, Roses, Greenhouse Plants, Box Edging, etc., will be disposed of in lots to suit purchasers, at very reduced prices, in order to close the business as speedily as possible. Orders accompanied with the cash, to the amount of ten dollars or upwards, will be supplied at a reduction of 25 per cent from the usual prices. Nurserymen, Venders, and others, wishing to purchase *by wholesale*, will be supplied at such *reduced prices* according to quality and quantity, as will probably prove satisfactory to them. Young stock, both in the Fruit and Ornamental departments, supplied *very low* by the quantity. An opportunity is afforded to Amateurs and Nurserymen to obtain extra sized and many new and rare Specimen Fruit and Ornamental Trees, Shrubs and Plants, at very moderate prices. Extra sized Ornamental and Shade Trees for Streets, Lawns and Parks, *low*.

The establishment, now in the highest order and densely stocked, will be disposed of upon liberal terms, offering from its location, celebrity, saleable stock, greenhouses, dwellings, and other conveniences for conducting the business, very superior advantages to any person disposed to pursue it. It is requested that letters of inquiry, &c. be *post paid*. Descriptive Catalogues *gratis*.

August 1st 1848.

Improved Railroad Portable Horse Powers, and Over-shot Threshing Machines and Separators.—Having sold upwards of seventy setts of the above celebrated machines the past season, and to many large farmers in this state, Vermont, Massachusetts, Michigan, Ohio, Illinois, Wisconsin, Canada, and with entire satisfaction in every case, the subscriber would call the particular attention of farmers and mechanics desiring such machines, before purchasing—as he is prepared to offer a better finished article, with some slight improvements, at a less price, than before—for full particulars, description, &c, see catalogue, furnished gratis at the warehouse, Number 10 and 12, Green street, Albany, or by mail to those desiring them.

HORACE L. EMERY.

Abany March 10th, 1848.

PETERS'

BUFFALO WOOL DEPOT,

SECOND YEAR.

I have established a Wool Depot upon the following plan: *First*, The Wool is thrown into 10 sorts; Merino wool being No. 1, the grades numbering down from 1 to 5; the coarsest common wool being No. 5. Saxony wool is thrown into extra, and prime 1 and prime 2.—Combing and De Laines make 2 sorts more. *Second*, I charge for receiving, sorting, storing, and selling, ONE CENT PER POUND; this includes all charges at Depot, except insurance. *Third*, Sales are made for cash, except when otherwise directed by owner.

☞ All wool consigned to me should be marked with the owner's name.

Warehouse corner Washington and Exchange streets.

Buffalo, Jan. 1, 1848. T. C. PETERS.

DETROIT SEED STORE AND AGRICULTURAL WAREHOUSE.—In compliance with the expressed wish of a great number of the intelligent and enterprising farmers of Michigan, the subscribers have established *a seed store and agricultural warehouse* at Detroit, at which will be kept constantly on hand, the choicest varieties of garden, field and flower seeds, obtained from such sources, that they feel no hesitation in recommending them to be of the very best quality. Also, Agricultural and Horticultural implements and labor-saving machines, such as are usually kept at the agricultural warehouses at the East, among which are Pratt's Patent corn-planter and seed drill, Pennock's patent drill (for drilling in wheat and other small grain,) Pitt's thrashing machine, improved harrow, improved cultivator, a great variety of plows, corn shellers, straw cutters and washing machines of the most approved kinds, together with Rich's Beehive, Montgolphier's Hydraulic Ram, Grant's Fanning Mill, Camwheel Churn, &c.

At Nos. 93 and 95 Woodward Avenue, nearly opposite the National Hotel.

Detroit, June 1st. 1848.

F. F. PARKER & BROTHER.

Detroit Wool Depot.

In Atwater Street, back of the Michigan Exchange, formerly the storehouse of Gillet and Desnoyers.

THE undersigned will open a depot at the above mentioned place, and be prepared to receive from farmers their wool immediately after shearing. His plan will be similar to that of the Eastern depots, which have proved so satisfactory to both wool-growers and manufacturers; that is, if lots of wool are of an even quality, and if the owner wishes, each man's clip will be kept and sold separately. If not even in quality, they will be thrown into sorts according to quality and condition. As soon as a sufficient quantity is collected, Eastern manufacturers will be invited to examine and purchase. No difficulty is anticipated in effecting prompt cash sales, at good rates, as the orders on wool depots from manufacturers, have hitherto generally outrun the supply. Wool may be delivered at the depot from wagons, or if sent by Railroad, will be taken by me from the carhouse, without expense or care to the owner. It will be sufficient for him to put his wool aboard the cars, taking a receipt for the same, mark the bales with his name, and consign them to the "Detroit Wool Depot," and all will be safe. Insurance will be effected on all lots as soon as arrived. All charges, *including insurance*, cartage, sorting, storage, shipping and for effecting sale, will be included in a commission of one and a half cents on the pound.

EARDLEY IVES.

Detroit March 27th, 1848.

REFERENCES.—E. P. Hastings, C. C. Trowbridge, B. F. .H Witherell, Z. Pitcher, M. D. M. Palmer, Shubael Conant.